APPENDIX A

1. Wright T.C., Kurman R.J., Ferenczy A. (1994) Cervical Intraepithelial Neoplasia. In *Pathology of the Female Genital Tract*. (Edited by A.Blaustein), New York.

2. American Cancer Society (1995) Cancer Facts and Figures, 12.

5 3. Kurman R.J., Henson D.E., Herbst A.L., Noller K.L., Schiffman M.H. (1994) Interim guidelines of management of abnormal cervical cytology. JAMA **271**, 1866-1869.

4. World Health Organization, Geneva (1988) Cytological Screening in the Control of Cervical Cancer: Technical Guidelines.

5. Fahey M.T., Irwig L., Macaskill P. (1995) Meta-analysis of Pap test accuracy. American J
10 Epidemiology **141(7)**, 680-689.

6. Wilkinson E.J. (1990) Pap Smears and screening for cervical neoplasia. Clin Obstet Gynecol **33**, 817-825.

7. Koss L.G. (1989) The Papanicolaou test for cervical cancer detection: a triumph and a tragedy. JAMA, 737-743.

15 8. Burke L., Ducatman B.S. (1991) Colposcopy, text and atlas. Appleton and Large, Norwalk, CT.

9. Mitchell MF. (1994) Accuracy of Colposcopy. Consultations in Obstetrics and Gynecology **6(1)**, 70-73.

10. Richards-Kortum R.R., Rava R.P., Fitzmaurice M., Sivak M.V. (1991) Spectroscopic diagnosis of colonic dysplasia. Photochemistry and Photobiology **53**, 777-786.

11. Kapadia C.R., Cutruzzola F.W., O'Brien K.M., Stetz M.L., Enriquez R., Deckelbaum L.I. (1990) Laser-induced fluorescence spectroscopy of human colonic mucosa, Gastroenterology **99**, 150-157.

12. Marchesini R., Brambilla M., Pignoli E., Bottiroli G., Croce A.C., Dal Fante M., Spinelli P., Di Palma S. (1992) Light-induced fluorescence spectroscopy of adenomas, adenocarcinomas and non-neoplastic mucosa in human colon, J Photochemistry and Photobiology **14(3)**, 219-30.

13. Cothren R.M., Richards-Kortum R.R., Rava R.P., Boyce G.A., Doxtader M., Blackman R., Ivanc T., Hayes G.B., Feld M.S., Petras R.E. (1990) Gastrointestinal tissue diagnosis by laser induced fluorescence spectroscopy at endoscopy. Gastrointestinal Endoscopy **36**, 105-111.

14. Schomacker K.T., Frisoli J.K., Compton C.C., Flotte T.J., Richter J.M., Nishioka N.S., Deutsch T.F. (1992) Ultraviolet laser induced fluorescence of colonic tissue: basic biology and diagnostic potential. Lasers in Surgery and Medicine **12**, 63-78.

15. Hung J., Lam S., LeRiche J.C., Palcic B. (1991) Autofluorescence of normal and malignant bronchial tissue. Lasers in Surgery and Medicine **11(2)**, 99-105.

16. Lam S., Hung J.Y.C., Kennedy S.M., Leriche J.C., Vedal R., Nelems B., Macaulay C.E., Palcic B. (1992) Detection of dysplasia and carcinoma in situ by ratio fluorimetry. Am Rev Dis **146**, 1458-1461.

17. Lam S., Macaulay C., Palcic B. (1993) Detection and localization of early lung cancer by imaging techniques. Chest **103**, 12s-14s.

A: 231018(4Y9601!.DOC)

APPENDIX B

1. Wright TC, Kurman RJ, and Ferenczy A in <u>Pathology of the Female Genital Tract</u> (eds. A. Blaustein), 156-177, Springer-Verlag, New York (1994).

2. Barron BA, Richart RM, "Statistical model of the natural history of cervical carcinoma: II. Estimates of the transition time from dysplasia to carcinoma in situ," JNCI 45: 1025-1030 (1970).

3. Burke L, Antonioli DA and Ducatman BS., <u>Colposcopy, Text and Atlas</u>, Appleton and Large, Norwalk CT (1991).

4. Mitchell MF, "Diagnosis and Treatment of Preinvasive Disease of the Female Lower Genital Tract" The Cancer Bulletin. 42: 71-76 (1990).

5. Reid R, Stanhope CR, Herschman BR, Crum CP, Agronow SJ, "Genital warts and Cervical cancer," Am J Obstet Gynecol, IV: 815-823 (1984).

6. Reid R, Scalzi P, "Genital Warts and Cervical Cancer," Am J Obstet Gynecol, 153(6): 611-618 (1985).

7. Barrasso R,. Coupez F, Ionesco M, DeBrux J, "Human Papilloma Viruses and Cervical Intraepithelial Neoplasia: The Role of Colposcopy," Gynecologic Oncology, 27: 197-207 (1987).

8. Alfano RR, Pradhan A and Tang CG, "Optical spectroscopic diagnosis of cancer in normal and breast tissues,"J Optic Soc Am B, 6: 1015-1023 (1989).

9. Andersson ES, Johansson J, Svanberg K and Svanberg S, "Fluorescence imaging and point measurements of tissue: applications to the demarcation of malignant tumors and atherosclerotic lesions from normal tissue," Photochem Photobiol, 53: 807-14 (1991).

10. Richards-Kortum RR, Rava RP, Petras RE, Fitzmaurice M, Sivak MV and Feld MS, "Spectroscopic diagnosis of colonic dysplasia," Photochem Photobiol, 53: 777-786 (1991).

11. Rava RP, Richards-Kortum RR, Fitzmaurice M, Cothren RM, Petras RE, Sivak M and Feld MS, "Early detection of dysplasia in colon and urinary bladder tissue using laser-induced fluorescence", Optical methods for tumor treatment and early diagnosis: mechanisms and technique, SPIE 1426: 68-78 (1991).

12. Wong PTT, Wong RK, Caputo TA, Godwin TA and Rigas B, "Infrared spectroscopy of human cervical cells: Evidence of extensive structural changes during carcinogenesis," Proc Natl Acad Sci USA, 88: 10988-10992 (1991).

13. Alfano RR, Lui CH, Sha WL, Zhu HR, Akins DL, Cleary J, Prudente R and Cellmer E, "Human breast tissues studied by IR fourier transform Raman spectroscopy," Lasers in Life Sc, 4: 23-28 (1991).

14. Baraga JJ, Feld MS and Rava RP, "Rapid near-infrared Raman spectroscopy of human tissue with a spectrograph and CCD detector." Appl. Spectr, 46: 187-190 (1992).

15. Schomacker KT, Frisoli JK, Compton CC, Flotte TJ, Richter JM, Nishioka NS and Deutsch TF, "Ultraviolet laser-induced fluorescence of colonic tissue: Basic biology and diagnostic potential," Lasers in Surg Med, 12: 63-78 (1992).

16. Mahadevan A, Mitchell MF, Thomsen S, Silva E and Richards-Kortum RR, "A study of the fluorescence properties of normal and neoplastic human cervical tissue," Lasers Surg Med 13:647-655, (1993).

17. Ramanujam N, Mitchell MF, Mahadevan A, Thomsen S, Malpica A, Wright TC, Atkinson, N and Richards-Kortum; In Vivo Diagnosis of Cervical Intraepithelial Neoplasia Using 337 Excitation, PNAS 91:10193, 1994.

18. Ramanujam N, Mitchell MF, Mahadevan A, Thomsen S, Richards-Kortum RR, "Spectroscopic Diagnosis of Cervical Intraepithelial Neoplasia (CIN) in vivo Using Laser Induced Fluorescence Spectra at Multiple Excitation Wavelengths," Lasers Surg Med, (in press) (1996).

19. Brookner CK, Agrawal A, Trujillo EV, Mitchell MF and Richards-Kortum RR, "Relative Risk of UV-Fluorescence Spectroscopy and Endoscopy are comparable," 24th. Annual Meeting of the American Society for Photobiology, Photochem Photobiol Supp. (in press) (1996)

APPENDIX C: PRINCIPAL COMPONENTS

Principal Components of Full-Parameter Constituent Algorithm 1 which differentiates SILs from Normal Squamous Tissues. Results reported for calibration set:

Legend	PC1	PC3	PC7
1	0.630	-0.576	0.288
1	0.590	-0.460	0.294
1	0.902	-0.849	-0.034
1	1.150	-0.678	-0.104
1	-0.413	-0.179	-0.150
1	-1.190	-0.171	-0.225
1	0.489	-0.049	-0.138
1	0.200	-0.163	-0.130
1	-0.889	-0.457	-0.104
1	1.060	-0.256	-0.253
1	1.290	-0.360	-0.143
1	-0.113	-0.220	-0.162
1	0.610	-0.108	-0.031
1	-1.460	-0.554	-0.129
1	0.468	-0.314	-0.262
1	1.290	-0.422	-0.093
1	0.174	-0.690	-0.156
1	0.428	-0.798	-0.225
1	1.290	-0.742	-0.362
1	1.410	-0.530	-0.154
1	0.284	-0.518	-0.331
1	2.220	-1.400	-0.137
1	1.160	-0.191	-0.116
1	0.231	-0.099	-0.247
1	1.640	-0.271	-0.249
1	0.538	-0.179	-0.112
1	-0.864	0.032	0.118
1	0.130	-0.273	-0.135
1	0.152	0.029	-0.010
1	-0.978	-0.702	0.095
1	0.635	-0.120	-0.079
1	1.660	-0.683	0.002
1	0.934	-0.401	-0.150
1	0.692	0.015	0.144
1	0.018	-0.363	-0.094
1	0.401	-0.085	0.071
1	0.187	-0.146	-0.043
1	0.132	-0.142	-0.175
1	-0.593	-1.260	-0.103
1	1.140	-0.565	-0.353
1	-0.349	-0.423	-0.147
1	0.717	-0.084	-0.373

1	-0.128	0.065	-0.141
1	1.570	-0.223	-0.171
1	1.500	-0.661	0.034
1	-1.210	-0.545	-0.126
1	-0.009	-0.104	-0.175
1	0.553	-0.169	-0.117
1	0.247	0.010	0.125
1	0.502	-0.182	-0.039
1	1.620	-0.247	-0.210
1	1.350	-0.546	-0.311
1	0.940	-0.690	-0.236
1	-0.258	-0.276	-0.033
1	0.369	-0.385	-0.347
1	-0.185	-0.227	-0.011
1	0.602	-0.642	-0.358
1	0.890	-0.963	-0.797
1	0.864	-0.463	-0.326
1	1.090	-0.548	-0.336
1	0.003	-0.152	-0.122
1	0.087	-0.153	-0.161
1	0.182	-0.315	-0.114
1	0.666	-0.437	-0.389
1	1.470	-0.874	-0.148
1	0.055	-0.492	-0.119
1	1.200	-0.728	-0.438
1	1.430	-0.442	-0.285
1	0.991	-0.580	-0.409
1	-0.454	-0.600	-0.174
1	0.659	-0.931	-0.505
1	0.225	-0.266	-0.351
1	-1.110	-0.519	-0.184
1	1.060	-0.390	-0.392
1	1.650	-0.584	-0.146
1	0.026	-0.048	-0.140
1	0.112	-0.466	-0.318
1	1.710	-0.561	-0.275
1	1.630	-0.918	-0.353
1	0.624	-0.490	-0.182
1	0.051	-0.922	-0.164
1	0.197	-0.004	0.003
1	-0.814	-0.239	0.066
1	-1.510	-0.399	0.135
1	0.403	-0.161	-0.281
1	0.043	-0.967	-0.132
1	-1.940	-1.510	-0.130
1	-0.980	-0.603	0.107
1	0.468	-0.327	-0.141
1	0.174	-1.140	0.033
1	1.220	-0.413	-0.340
1	1.110	-0.272	-0.135
1	0.096	-0.299	-0.195

1	-1.190	-0.083	-0.324
2	-0.642	-0.115	-0.100
2	-0.421	-0.074	-0.194
2	-0.170	-0.293	-0.344
2	-1.680	-1.210	-0.469
2	-0.828	-0.215	-0.426
2	-0.327	-0.096	-0.287
2	-1.690	-0.350	-0.090
2	-1.330	-0.709	-0.367
2	-0.481	0.261	-0.238
2	-0.623	-0.126	0.095
2	0.035	-0.325	-0.319
2	-0.809	-0.255	-0.329
2	-0.764	-0.153	-0.095
3	-1.850	-1.730	0.225
3	-0.299	-0.487	0.162
3	-0.205	-0.496	-0.077
3	1.990	-1.760	-0.094
3	-0.612	-0.292	-0.084
3	-1.110	-1.070	-0.083
3	-1.300	-0.330	-0.103
3	-0.176	-0.114	0.061
3	-1.460	-0.228	-0.519
3	-0.435	-0.881	-0.072
4	-0.286	-0.057	0.141
4	-1.080	-0.546	-0.247
4	-1.140	-0.573	-0.438
4	-0.649	-0.848	0.010
4	-1.770	-1.110	-0.186
4	-1.140	-0.881	-0.392
4	1.940	-1.980	0.130
4	-0.839	-0.500	-0.069
4	-1.550	-0.608	-0.328
4	-0.263	-0.158	-0.309
4	1.590	-0.250	-0.311
4	-1.030	-0.353	-0.182
4	-1.420	-0.641	-0.278
4	-0.864	-0.313	-0.018
4	-0.095	-0.982	0.087
5	0.415	-0.346	-0.154
5	-1.320	-0.560	-0.359
5	0.716	-0.066	0.068
5	-1.010	-0.403	-0.571
5	-0.057	-1.040	-0.162
5	0.067	-0.471	-0.615
5	0.702	-1.080	-0.830
5	0.297	-0.568	0.185
5	-0.403	-0.508	-0.164
5	1.060	-1.030	-0.079
5	-0.971	-0.624	-0.294
5	-1.300	-0.254	-0.693

5	-1.200	-0.041	-0.474
5	-0.276	0.347	-0.453
5	0.183	-0.273	-0.343
5	-0.616	-0.661	-0.506
5	-0.318	-0.323	-0.240
5	-0.406	-0.773	-0.154
5	-0.451	-0.297	-0.447
5	0.557	-0.088	-0.262.
5	-0.208	-0.863	-0.223
5	-0.258	0.027	-0.437
5	-0.400	-0.813	-0.122
6	-0.382	-1.460	0.152
6	-1.370	-0.247	-0.609
6	-0.616	-0.256	-0.112
6	0.390	-0.182	-0.235
6	-0.546	-0.424	-0.129
6	0.768	-1.170	-0.515
6	-0.770	-0.906	-0.002
6	-1.810	-0.883	-0.097
6	0.026	-1.210	-0.334
6	-1.060	-0.393	-0.111
6	-1.370	-0.783	-0.251
6	0.880	-0.476	-0.368
6	-0.589	-0.346	-0.384
6	0.662	-1.040	-0.347
6	-0.292	-0.048	-0.470
6	-0.106	-0.239	-0.073
6	-1.020	-0.816	-0.129
6	-0.484	-0.425	-0.207
6	-0.834	-0.521	-0.006
6	-1.340	-1.860	-0.283
6	-0.084	-0.197	-0.125
6	-0.733	-0.689	-0.253
6	-0.788	-0.409	-0.028
6	-1.280	-1.410	-0.298
6	-0.816	-0.099	-0.078
6	-1.160	-1.060	0.185
6	-0.434	-0.092	-0.075
6	-0.139	-1.300	-0.195
6	-0.768	0.120	-0.300
6	-0.951	-0.441	-0.219
6	-0.392	-0.307	-0.727
6	-0.015	0.071	-0.171
6	-1.430	-0.619	-0.127
6	-1.110	-1.070	-0.104
6	-1.360	-0.504	-0.699

Principal Components of Full-Parameter Constituent Algorithm 2 which differentiates SILs from Normal Columnar Tissues. Results reported for calibration set:

L	PC1	PC2	PC4	PC5
1	0.413	-0.096	-0.067	-0.134
1	0.763	-0.119	-0.089	0.078
1	0.674	0.403	-0.184	0.040
1	1.100	0.472	-0.308	0.210
1	0.381	0.166	0.253	-0.064
1	-0.309	-0.278	-0.048	-0.080
1	0.664	-0.169	-0.038	-0.021
1	-0.083	-0.204	0.161	-0.003
1	-1.210	-0.193	-0.096	-0.109
1	0.053	-0.105	0.207	0.083
1	0.258	-0.055	0.162	-0.217
1	0.021	-0.009	-0.110	0.127
1	0.357	0.091	0.072	0.112
1	-1.020	-0.412	-0.765	-0.043
1	-0.089	-0.065	-0.025	0.045
1	0.842	0.141	-0.168	-0.017
1	0.020	0.016	0.009	0.047
1	0.263	0.199	0.016	0.127
1	1.190	0.055	-0.406	-0.087
1	0.913	0.102	-0.215	-0.359
1	0.685	0.127	0.152	0.159
1	0.224	-0.241	0.032	0.071
1	1.070	0.314	-0.017	-0.022
1	0.914	-0.262	0.391	-0.103
1	1.790	-0.233	-0.561	-0.166
1	0.557	0.127	-0.101	0.017
1	-0.310	-0.323	-0.217	-0.136
1	0.422	0.134	0.046	0.005
1	0.164	-0.325	0.074	0.010
1	-1.050	0.274	-0.081	-0.224
1	0.845	-0.057	-0.089	0.163
1	0.733	-0.462	-0.653	-0.422
1	0.084	-0.271	0.128	0.041
1	0.792	-0.338	0.092	-0.166
1	0.560	0.264	0.209	-0.040
1	0.535	0.180	0.189	0.013
1	0.318	0.209	0.133	0.137
1	0.521	0.174	0.058	0.179
1	0.067	0.747	-0.188	0.072
1	1.300	-0.134	-0.288	-0.060
1	-0.049	0.134	0.312	-0.153
1	0.494	0.152	0.079	0.033
1	0.183	-0.462	0.144	0.071
1	1.420	0.051	-0.340	-0.033
1	1.300	-0.384	-0.421	-0.279
1	-0.383	0.239	-0.255	-0.165
1	0.341	-0.111	-0.067	0.114

1	0.443	0.169	0.408	0.132
1	0.289	-0.053	0.099	0.016
1	1.210	-0.378	0.141	0.187
1	1.060	0.199	-0.337	-0.096
1	0.631	-0.161	-0.164	-0.054
1	0.795	0.417	-0.069	0.166
1	0.209	0.189	0.050	0.012
1	1.080	-0.132	0.267	-0.027
1	0.425	0.065	0.001	0.217
1	0.079	0.044	-0.094	0.066
1	0.275	0.053	-0.175	-0.043
1	0.843	0.151	-0.142	0.129
1	1.550	0.030	-0.181	0.243
1	0.626	-0.096	0.135	0.033
1	0.482	-0.093	0.075	0.070
1	0.599	-0.019	0.143	0.048
1	0.849	0.389	-0.038	0.100
1	0.494	-0.108	-0.082	-0.002
1	0.505	-0.274	0.209	-0.007
1	1.470	-0.026	-0.380	-0.059
1	1.050	0.296	-0.017	-0.050
1	0.845	-0.148	-0.065	-0.001
1	-0.030	0.380	0.107	-0.095
1	0.405	0.217	-0.119	0.186
1	0.563	-0.104	0.039	0.131
1	-0.809	-0.244	-0.451	0.206
1	0.552	0.085	-0.066	0.107
1	1.070	-0.184	-0.589	-0.234
1	0.312	-0.133	-0.028	0.084
1	0.183	0.048	0.129	0.003
1	1.410	0.112	-0.637	-0.194
1	0.852	-0.304	-0.304	-0.381
1	0.508	-0.419	0.008	-0.018
1	0.257	0.368	-0.054	0.018
1	0.573	0.077	-0.080	0.010
1	-0.156	-0.155	-0.338	0.124
1	-0.885	-0.231	-0.527	-0.055
1	0.313	-0.447	0.072	0.271
1	0.103	0.574	0.086	0.037
1	0.151	0.359	0.135	-0.162
1	0.129	0.140	0.188	-0.140
1	-0.081	-0.156	0.219	0.155
1	0.093	0.716	-0.151	-0.032
1	0.265	-0.348	0.374	0.251
1	0.674	-0.365	-0.125	-0.049
1	0.457	-0.110	0.050	0.070
1	0.089	-0.378	-0.401	0.031
2	-0.616	-0.363	-0.106	0.101
2	-0.258	-0.340	-0.080	-0.043
2	-0.543	-0.072	-0.197	-0.002
2	-1.190	0.109	-0.003	0.020

2	-0.407	-0.526	0.177	-0.005
2	-0.123	-0.199	0.107	0.142
2	-0.813	-0.344	-0.523	0.010
2	-1.180	-0.174	0.041	-0.079
2	-0.677	-0.544	-0.032	-0.061
2	-0.603	-0.250	-0.259	0.088
2	-0.323	0.114	0.197	0.061
2	-1.290	-0.338	0.078	-0.082
2	-0.968	-0.028	0.228	0.046
3	-0.714	0.263	-0.224	0.128
3	-0.432	-0.297	0.090	-0.260
3	-0.246	0.003	0.116	0.079
3	-0.045	0.128	0.036	0.090
3	-0.087	0.367	0.180	0.018
3	-0.988	0.348	0.061	-0.227
3	-1.470	-0.567	-0.515	-0.060
3	-0.260	-0.288	0.266	-0.152
3	-1.800	-0.666	-0.386	-0.044
3	-0.163	0.543	0.082	-0.165
4	-0.446	-0.511	0.187	-0.238
4	-0.224	0.330	0.114	0.034
4	-1.030	0.176	-0.054	0.084
4	-0.730	0.394	0.214	-0.147
4	-1.440	0.154	-0.394	-0.036
4	-0.771	0.256	0.054	0.055
4	-0.127	0.288	-0.166	0.085
4	-0.672	0.244	0.185	-0.124
4	-0.671	0.193	-0.103	0.078
4	0.060	-0.285	0.133	0.006
4	1.020	0.142	-0.438	-0.001
4	-0.425	-0.080	-0.119	0.006
4	-0.999	0.142	-0.198	0.047
4	0.268	-0.186	0.184	-0.075
4	-0.717	0.356	-0.096	0.030
5	0.240	-0.121	0.021	0.126
5	-0.593	0.039	-0.421	0.007
5	0.372	-0.086	-0.063	-0.200
5	-1.480	-0.321	-0.188	0.232
5	-0.954	0.501	0.298	0.105
5	-0.442	-0.102	0.232	0.014
5	-0.073	0.109	0.100	0.315
5	0.265	0.389	0.032	-0.144
5	-0.276	0.371	0.166	-0.075
5	-0.055	0.431	-0.243	-0.376
5	-0.451	-0.360	0.221	-0.354
5	-1.040	-0.285	-0.166	0.302
5	-0.642	-0.475	0.058	0.085
5	-0.755	-0.254	0.592	0.010
5	-0.490	-0.434	0.179	0.045
5	0.063	-0.043	0.092	0.089
5	-0.327	-0.135	0.005	-0.019

5	0.043	0.292	0.345	-0.252
5	-0.109	-0.355	0.106	0.298
5	1.010	-0.267	-0.130	0.085
5	-0.457	0.147	0.117	-0.196
5	0.130	0.181	0.331	0.119
5	-0.551	0.157	0.103	-0.121
6	-0.668	1.010	0.133	0.016
6	-0.601	-0.219	-0.273	0.268
6	-0.488	-0.070	-0.079	-0.058
6	0.045	0.046	0.046	-0.072
6	-0.278	0.004	-0.230	-0.055
6	-0.156	0.620	0.129	0.208
6	-0.553	0.533	0.069	-0.216
6	-1.190	-0.493	-0.774	0.083
6	-0.735	0.701	0.163	-0.019
6	-0.619	0.066	-0.068	-0.078
6	-0.926	0.028	0.101	-0.023
6	0.361	0.116	-0.041	-0.064
6	-0.339	0.180	0.181	-0.054
6	0.488	0.172	-0.086	0.000
6	-0.271	-0.517	0.171	0.199
6	0.269	-0.207	0.095	-0.099
6	-0.136	0.233	0.077	-0.103
6	0.066	-0.330	0.455	-0.310
6	-0.660	0.283	0.093	-0.132
6	-1.400	1.460	-0.371	0.665
6	0.296	0.131	-0.031	0.090
6	-0.235	-0.047	-0.327	0.147
6	-0.529	-0.019	0.127	-0.117
6	-1.510	0.623	0.091	0.344
6	0.064	-0.064	-0.030	-0.076
6	-0.373	1.040	-0.099	-0.280
6	-0.075	-0.130	0.077	-0.130
6	0.479	0.206	-0.047	0.080
6	-0.092	-0.433	0.087	0.045
6	-0.364	0.010	-0.046	0.126
6	-1.220	-0.321	0.804	0.698
6	-0.196	-0.155	0.300	0.123
6	-0.347	-0.111	-0.024	-0.097
6	-0.479	-0.206	0.047	-0.080
6	-0.078	0.406	0.047	0.227

Principal Components of Full-Parameter Constituent Algorithm 3 which differentiates HG SILs from LG SILs. Results reported for calibration set.

L	PC1	PC3	PC6	PC8
1	0.630	-0.576	-0.733	-0.127
1	0.590	-0.460	-0.800	-0.113
1	0.902	-0.849	-0.480	-1.080
1	1.150	-0.678	-1.070	-0.601
1	-0.413	-0.179	-0.777	-0.231
1	-1.190	-0.171	-0.859	-0.273
1	0.489	-0.049	-0.676	-0.292
1	0.200	-0.163	-0.819	-0.476
1	-0.889	-0.457	-0.883	-0.420
1	1.060	-0.256	-0.807	-0.268
1	1.290	-0.360	-0.860	-0.321
1	-0.113	-0.220	-0.879	-0.511
1	0.610	-0.108	-0.927	-0.446
1	-1.460	-0.554	-1.050	-0.356
1	0.468	-0.314	-1.010	-0.557
1	1.290	-0.422	-0.800	-0.340
1	0.174	-0.690	-0.966	-0.505
1	0.428	-0.798	-0.975	-0.517
1	1.290	-0.742	-0.809	-0.214
1	1.410	-0.530	-0.942	-0.253
1	0.284	-0.518	-0.950	-0.454
1	2.220	-1.400	-0.802	-0.765
1	1.160	-0.191	-0.919	-0.652
1	0.231	-0.099	-0.907	-0.476
1	1.640	-0.271	-0.678	-0.411
1	0.538	-0.179	-0.942	-0.693
1	-0.864	0.032	-0.905	-0.388
1	0.130	-0.273	-1.110	-0.464
1	0.152	0.029	-0.958	-0.725
1	-0.978	-0.702	-1.240	-0.666
1	0.635	-0.120	-0.823	-0.554
1	1.660	-0.683	-0.848	-0.439
1	0.934	-0.401	-0.956	-0.532
1	0.692	0.015	-0.850	-0.492
1	0.018	-0.363	-0.938	-0.491
1	0.401	-0.085	-0.984	-0.561
1	0.187	-0.146	-1.030	-0.532
1	0.132	-0.142	-1.050	-0.625
1	-0.593	-1.260	-1.070	-0.557
1	1.140	-0.565	-0.758	-0.378
1	-0.349	-0.423	-0.766	-0.458
1	0.717	-0.084	-0.918	-0.529
1	-0.128	0.065	-0.820	-0.553
1	1.570	-0.223	-0.801	-0.474
1	1.500	-0.661	-0.754	-0.278
1	-1.210	-0.545	-0.776	-0.353
1	-0.009	-0.104	-0.816	-0.518

1	0.553	-0.169	-0.939	-0.618
1	0.247	0.010	-0.968	-0.611
1	0.502	-0.182	-1.010	-0.522
1	1.620	-0.247	-0.887	-0.497
1	1.350	-0.546	-0.791	-0.528
1	0.940	-0.690	-1.040	-0.574
1	-0.258	-0.276	-1.020	-0.645
1	0.369	-0.385	-0.836	-0.745
1	-0.185	-0.227	-1.060	-0.527
1	0.602	-0.642	-0.865	-0.293
1	0.890	-0.963	-1.510	-0.591
1	0.864	-0.463	-1.050	-0.461
1	1.090	-0.548	-0.932	-0.358
1	0.003	-0.152	-0.927	-0.361
1	0.087	-0.153	-0.861	-0.595
1	0.182	-0.315	-0.965	-0.411
1	0.666	-0.437	-0.994	-0.330
1	1.470	-0.874	-0.725	-0.089
1	0.055	-0.492	-1.000	-0.383
1	1.200	-0.728	-0.907	-0.348
1	1.430	-0.442	-0.902	-0.446
1	0.991	-0.580	-0.889	-0.315
1	-0.454	-0.600	-1.040	-0.611
1	0.659	-0.931	-0.672	-0.599
1	0.225	-0.266	-0.918	-0.373
1	-1.110	-0.519	-0.988	-0.279
1	1.060	-0.390	-0.991	-0.485
1	1.650	-0.584	-0.973	-0.558
1	0.026	-0.048	-0.880	-0.406
1	0.112	-0.466	-0.980	-0.447
1	1.710	-0.561	-0.755	-0.408
1	1.630	-0.918	-1.230	-0.470
1	0.624	-0.490	-0.944	-0.599
1	0.051	-0.922	-0.990	-0.450
1	0.197	-0.004	-0.908	-0.510
1	-0.814	-0.239	-0.815	-0.289
1	-1.510	-0.399	-0.932	-0.328
1	0.403	-0.161	-1.000	-0.616
1	0.043	-0.967	-0.972	-0.665
1	-1.940	-1.510	-0.728	-0.651
1	-0.980	-0.603	-0.988	-0.440
1	0.468	-0.327	-0.855	-0.442
1	0.174	-1.140	-0.843	-0.627
1	1.220	-0.413	-0.873	-0.518
1	1.110	-0.272	-0.801	-0.410
1	0.096	-0.299	-0.956	-0.524
1	-1.190	-0.083	-0.928	-0.501
2	-0.642	-0.115	-0.891	-0.659
2	-0.421	-0.074	-0.746	-0.336
2	-0.170	-0.293	-0.999	-0.479
2	-1.680	-1.210	-0.052	-0.787

2	-0.828	-0.215	-0.730	-0.495
2	-0.327	-0.096	-0.893	-0.541
2	-1.690	-0.350	-1.570	0.044
2	-1.330	-0.709	-0.869	-0.413
2	-0.481	0.261	-0.864	-0.420
2	-0.623	-0.126	-0.913	-0.550
2	0.035	-0.325	-0.990	-0.496
2	-0.809	-0.255	-0.765	-0.478
2	-0.764	-0.153	-0.959	-0.573
3	-1.850	-1.730	-1.060	-1.300
3	-0.299	-0.487	-0.796	-0.542
3	-0.205	-0.496	-0.880	-0.481
3	1.990	-1.760	-0.752	-0.609
3	-0.612	-0.292	-1.150	-0.562
3	-1.110	-1.070	-0.996	-0.604
3	-1.300	-0.330	-1.240	-0.852
3	-0.176	-0.114	-0.995	-0.616
3	-1.460	-0.228	-1.110	-0.520
3	-0.435	-0.881	-1.090	-0.533
4	-0.286	-0.057	-0.928	-0.711
4	-1.080	-0.546	-0.964	-0.488
4	-1.140	-0.573	-1.030	-0.261
4	-0.649	-0.848	-1.060	-0.411
4	-1.770	-1.110	-0.822	-0.476
4	-1.140	-0.881	-0.894	-0.408
4	1.940	-1.980	-0.856	-0.521
4	-0.839	-0.500	-0.955	-0.571
4	-1.550	-0.608	-1.180	-0.232
4	-0.263	-0.158	-0.744	-0.297
4	1.590	-0.250	-0.869	-0.474
4	-1.030	-0.353	-0.739	-0.284
4	-1.420	-0.641	-1.030	-0.377
4	-0.864	-0.313	-1.090	-0.495
4	-0.095	-0.982	-1.050	-0.451
5	0.415	-0.346	-0.649	-0.850
5	-1.320	-0.560	-0.940	-0.282
5	0.716	-0.066	-0.872	-0.464
5	-1.010	-0.403	-1.070	-0.492
5	-0.057	-1.040	-1.090	-0.594
5	0.067	-0.471	-1.020	-0.277
5	0.702	-1.080	-1.610	-0.545
5	0.297	-0.568	-1.020	-0.626
5	-0.403	-0.508	-0.966	-0.386
5	1.060	-1.030	-1.030	-0.227
5	-0.971	-0.624	-0.731	-0.284
5	-1.300	-0.254	-1.590	-0.970
5	-1.200	-0.041	-1.020	-0.759
5	-0.276	0.347	-0.762	-0.781
5	0.183	-0.273	-0.794	-0.676
5	-0.616	-0.661	-0.989	-0.818
5	-0.318	-0.323	-1.130	-0.570

5	-0.406	-0.773	-0.981	-0.286
5	-0.451	-0.297	-1.050	-0.430
5	0.557	-0.088	-0.927	-0.665
5	-0.208	-0.863	-0.967	-0.484
5	-0.258	0.027	-0.908	-0.372
5	-0.400	-0.813	-0.967	-0.583
6	-0.382	-1.460	-0.829	-0.076
6	-1.370	-0.247	-0.950	-0.132
6	-0.616	-0.256	-0.867	-0.432
6	0.390	-0.182	-0.796	-0.355
6	-0.546	-0.424	-1.200	-0.654
6	0.768	-1.170	-1.140	-0.381
6	-0.770	-0.906	-0.862	-0.358
6	-1.810	-0.883	-1.110	-0.225
6	0.026	-1.210	-0.959	-0.584
6	-1.060	-0.393	-0.945	-0.578
6	-1.370	-0.783	-0.837	-0.544
6	0.880	-0.476	-0.936	-0.372
6	-0.589	-0.346	-1.040	-0.451
6	0.662	-1.040	-0.993	-0.515
6	-0.292	-0.048	-0.985	-0.457
6	-0.106	-0.239	-0.796	-0.440
6	-1.020	-0.816	-0.936	-0.213
6	-0.484	-0.425	-0.757	-0.417
6	-0.834	-0.521	-1.000	-0.586
6	-1.340	-1.860	-0.571	-0.439
6	-0.084	-0.197	-1.010	-0.541
6	-0.733	-0.689	-1.050	-0.421
6	-0.788	-0.409	-0.958	-0.358
6	-1.280	-1.410	-1.210	-0.353
6	-0.816	-0.099	-0.780	-0.370
6	-1.160	-1.060	-1.060	-0.531
6	-0.434	-0.092	-0.785	-0.477
6	-0.139	-1.300	-0.827	-0.555
6	-0.768	0.120	-0.628	-0.568
6	-0.951	-0.441	-1.110	-0.085
6	-0.392	-0.307	-0.411	-0.213
6	-0.015	0.071	-0.829	-0.420
6	-1.430	-0.619	-1.150	-0.767
6	-1.110	-1.070	-0.843	-0.648
6	-1.360	-0.504	-0.251	-0.591
	-1.940	-1.980	-1.610	-1.300

Principal Components of Reduced-Parameter Constituent Algorithm 1 which differentiates SILs from Normal Squamous Tissues. Results reported for calibration set.

L	PC1	PC2	PC3	PC4	PC6
1	0.748	-1.370	0.432	-0.128	-0.580
1	0.747	-1.380	0.432	-0.128	-0.602
1	0.857	-1.490	0.644	-0.281	-0.410
1	0.937	-1.410	0.678	-0.111	-0.615
1	0.513	-1.310	0.791	-0.172	-0.572
1	0.150	-1.190	0.803	-0.165	-0.552
1	0.828	-1.280	0.772	-0.179	-0.553
1	0.768	-1.370	0.870	-0.187	-0.568
1	0.334	-1.350	0.819	-0.183	-0.606
1	0.929	-1.340	0.657	-0.183	-0.589
1	0.989	-1.300	0.676	-0.143	-0.577
1	0.584	-1.320	0.789	-0.170	-0.590
1	0.807	-1.300	0.716	-0.165	-0.584
1	-0.221	-1.050	0.509	-0.117	-0.515
1	0.729	-1.360	0.699	-0.146	-0.575
1	0.969	-1.320	0.646	-0.158	-0.575
1	0.701	-1.450	0.734	-0.056	-0.563
1	0.773	-1.490	0.722	-0.071	-0.577
1	0.878	-1.270	0.697	-0.173	-0.622
1	0.766	-1.120	0.535	-0.141	-0.550
1	0.645	-1.370	0.690	-0.125	-0.534
1	0.741	-0.828	0.386	-0.060	-0.589
1	0.972	-1.270	0.761	-0.146	-0.541
1	0.680	-1.260	0.774	-0.179	-0.578
1	0.993	-1.100	0.718	-0.213	-0.566
1	0.848	-1.340	0.819	-0.130	-0.508
1	0.316	-1.180	0.794	-0.125	-0.533
1	0.579	-1.310	0.730	-0.077	-0.535
1	0.738	-1.250	0.851	-0.083	-0.509
1	0.303	-1.370	0.816	0.046	-0.575
1	0.862	-1.290	0.736	-0.124	-0.524
1	0.975	-1.140	0.635	-0.116	-0.564
1	0.935	-1.330	0.763	-0.065	-0.530
1	0.897	-1.270	0.703	-0.111	-0.528
1	0.697	-1.380	0.821	-0.085	-0.551
1	0.789	-1.300	0.724	-0.075	-0.523
1	0.701	-1.320	0.700	-0.073	-0.536
1	0.676	-1.340	0.765	-0.110	-0.541
1	0.433	-1.540	0.666	0.109	-0.541
1	0.910	-1.340	0.776	-0.315	-0.621
1	0.557	-1.370	0.781	-0.099	-0.481
1	0.923	-1.300	0.873	-0.105	-0.514
1	0.628	-1.210	0.845	-0.101	-0.473
1	1.060	-1.170	0.705	-0.141	-0.543
1	0.897	-1.140	0.598	-0.167	-0.600
1	0.143	-1.310	0.845	-0.269	-0.687

1	0.635	-1.310	0.807	-0.185	-0.568
1	0.867	-1.360	0.763	-0.069	-0.531
1	0.771	-1.250	0.769	-0.051	-0.472
1	0.763	-1.330	0.681	-0.114	-0.552
1	1.060	-1.170	0.697	-0.135	-0.522
1	1.040	-1.330	0.754	-0.143	-0.568
1	0.898	-1.430	0.724	-0.096	-0.574
1	0.558	-1.330	0.789	-0.059	-0.487
1	0.668	-1.340	0.771	-0.192	-0.536
1	0.582	-1.320	0.713	0.020	-0.537
1	0.771	-1.440	0.656	-0.164	-0.597
1	0.635	-1.280	0.691	-0.059	-0.559
1	0.854	-1.400	0.686	-0.126	-0.585
1	0.876	-1.360	0.640	-0.142	-0.599
1	0.679	-1.260	0.784	0.006	-0.511
1	0.690	-1.320	0.834	-0.146	-0.491
1	0.711	-1.340	0.753	-0.096	-0.524
1	0.694	-1.300	0.677	-0.099	-0.546
1	0.812	-1.160	0.545	-0.188	-0.640
1	0.671	-1.390	0.754	-0.054	-0.556
1	0.869	-1.300	0.844	-0.337	-0.660
1	1.000	-1.300	0.724	-0.160	-0.568
1	0.860	-1.350	0.693	-0.166	-0.576
1	0.476	-1.340	0.738	0.152	-0.500
1	0.804	-1.500	0.728	-0.141	-0.576
1	0.729	-1.330	0.790	-0.069	-0.509
1	0.167	-1.360	0.671	-0.096	-0.558
1	0.929	-1.330	0.733	-0.087	-0.542
1	0.933	-1.110	0.651	-0.113	-0.562
1	0.581	-1.270	0.710	-0.182	-0.577
1	0.655	-1.370	0.765	-0.077	-0.570
1	0.921	-1.070	0.652	-0.187	-0.548
1	0.753	-1.010	0.620	-0.111	-0.522
1	0.730	-1.320	0.687	-0.124	-0.546
1	0.615	-1.430	0.692	-0.014	-0.552
1	0.640	-1.150	0.655	-0.012	-0.445
1	0.155	-1.200	0.583	-0.225	-0.573
1	-0.120	-1.140	0.592	-0.191	-0.573
1	0.694	-1.280	0.727	-0.123	-0.544
1	0.556	-1.460	0.645	-0.043	-0.506
1	-0.245	-1.390	0.594	-0.170	-0.560
1	0.126	-1.310	0.639	-0.083	-0.486
1	0.726	-1.330	0.668	-0.131	-0.559
1	0.633	-1.490	0.669	-0.076	-0.568
1	0.879	-1.260	0.732	-0.224	-0.559
1	0.898	-1.260	0.606	-0.183	-0.567
1	0.641	-1.290	0.788	-0.113	-0.552
1	-0.132	-0.941	0.564	-0.168	-0.439
2	0.407	-1.260	0.803	-0.116	-0.546
2	0.494	-1.260	0.841	-0.228	-0.586
2	0.474	-1.350	0.762	-0.273	-0.653

2	0.009	-1.650	0.734	-0.455	-0.352
2	0.254	-1.280	0.903	-0.364	-0.616
2	0.496	-1.250	0.868	-0.143	-0.534
2	-0.170	-1.120	0.642	0.053	-0.728
2	0.179	-1.460	0.977	-0.370	-0.650
2	0.490	-1.170	0.905	-0.200	-0.513
2	0.383	-1.240	0.739	-0.193	-0.555
2	0.585	-1.320	0.819	-0.163	-0.569
2	0.376	-1.310	0.890	-0.186	-0.557
2	0.403	-1.230	0.785	-0.018	-0.471
3	-0.201	-1.510	0.489	-0.004	-0.466
3	0.590	-1.380	0.739	-0.071	-0.536
3	0.593	-1.380	0.751	-0.082	-0.539
3	0.658	-0.962	0.373	-0.144	-0.665
3	0.520	-1.370	0.890	-0.003	-0.508
3	0.279	-1.550	0.839	-0.186	-0.608
3	-0.062	-1.080	0.662	-0.004	-0.488
3	0.657	-1.310	0.849	-0.085	-0.530
3	-0.090	-1.100	0.788	-0.163	-0.527
3	0.533	-1.490	0.769	0.040	-0.530
4	0.549	-1.290	0.801	-0.188	-0.538
4	0.270	-1.390	0.864	-0.182	-0.633
4	0.241	-1.450	0.882	-0.166	-0.635
4	0.455	-1.470	0.764	-0.005	-0.613
4	-0.119	-1.380	0.636	-0.180	-0.601
4	0.162	-1.460	0.753	-0.179	-0.605
4	0.610	-1.010	0.285	-0.158	-0.690
4	0.394	-1.360	0.826	-0.039	-0.551
4	-0.007	-1.290	0.706	0.034	-0.564
4	0.494	-1.260	0.818	-0.195	-0.556
4	0.999	-1.150	0.673	-0.154	-0.518
4	0.243	-1.310	0.784	-0.140	-0.667
4	0.102	-1.290	0.656	0.177	-0.501
4	0.176	-1.190	0.687	-0.058	-0.504
4	0.444	-1.430	0.540	-0.059	-0.606
5	0.731	-1.380	0.721	-0.247	-0.437
5	0.004	-1.260	0.744	-0.204	-0.625
5	0.864	-1.330	0.667	-0.177	-0.579
5	-0.023	-1.140	0.653	-0.274	-0.600
5	0.671	-1.540	0.729	0.059	-0.539
5	0.622	-1.400	0.823	-0.079	-0.534
5	0.495	-1.230	0.677	-0.069	-0.513
5	0.759	-1.440	0.780	-0.097	-0.608
5	0.581	-1.450	0.835	-0.080	-0.588
5	0.782	-1.360	0.539	-0.088	-0.662
5	0.242	-1.380	0.812	-0.253	-0.647
5	-0.019	-1.210	0.932	-0.074	-0.532
5	0.194	-1.230	0.990	-0.170	-0.529
5	0.682	-1.160	1.080	-0.110	-0.391
5	0.750	-1.330	0.848	-0.108	-0.485
5	0.274	-1.370	0.748	-0.135	-0.538

5	0.510	-1.360	0.785	-0.090	-0.560
5	0.533	-1.440	0.781	-0.053	-0.590
5	0.468	-1.350	0.903	-0.216	-0.532
5	0.747	-1.160	0.733	0.027	-0.441
5	0.593	-1.450	0.746	0.072	-0.555
5	0.570	-1.230	0.841	-0.065	-0.504
5	0.451	-1.430	0.709	-0.052	-0.607
6	0.499	-1.670	0.458	0.002	-0.634
6	0.015	-1.220	0.779	-0.226	-0.605
6	0.427	-1.310	0.809	-0.164	-0.589
6	0.760	-1.390	0.745	-0.267	-0.633
6	0.262	-1.270	0.734	-0.141	-0.603
6	0.825	-1.540	0.724	-0.006	-0.617
6	0.389	-1.470	0.767	-0.072	-0.623
6	-0.249	-1.250	0.494	-0.049	-0.592
6	0.698	-1.590	0.770	0.038	-0.580
6	0.255	-1.360	0.910	-0.258	-0.648
6	0.178	-1.460	0.854	-0.178	-0.598
6	0.857	-1.340	0.784	-0.122	-0.570
6	0.402	-1.320	0.813	-0.063	-0.534
6	0.677	-1.460	0.632	-0.088	-0.583
6	0.485	-1.190	0.900	-0.112	-0.512
6	0.610	-1.260	0.765	-0.104	-0.553
6	0.271	-1.440	0.752	-0.104	-0.621
6	0.498	-1.390	0.801	-0.156	-0.573
6	0.405	-1.380	0.790	0.034	-0.527
6	0.165	-1.830	0.499	-0.127	-0.531
6	0.582	-1.320	0.755	-0.166	-0.580
6	0.352	-1.410	0.689	-0.041	-0.538
6	0.413	-1.340	0.805	-0.068	-0.574
6	0.065	-1.510	0.689	0.089	-0.554
6	0.364	-1.240	0.845	-0.212	-0.586
6	0.261	-1.440	0.720	0.055	-0.573
6	0.538	-1.270	0.802	-0.074	-0.507
6	0.526	-1.580	0.615	-0.049	-0.606
6	0.397	-1.150	0.778	0.019	-0.473
6	0.292	-1.310	0.758	0.000	-0.584
6	0.433	-1.370	0.797	-0.322	-0.716
6	0.635	-1.190	0.803	-0.116	-0.483
6	-0.064	-1.230	0.813	-0.203	-0.636
6	0.254	-1.530	0.733	-0.091	-0.587
6	0.037	-1.230	0.671	-0.260	-0.454

Principal Components of Reduced-Parameter Constituent Algorithm 2 which differentiates SILs from Normal Columnar Tissues. Results reported for calibration set:

L	PC1	PC2	PC5
1	0.118	0.022	0.021
1	0.238	0.021	-0.035
1	0.190	-0.095	0.056
1	0.275	-0.114	0.013
1	0.195	-0.053	0.002
1	-0.127	0.084	0.008
1	0.222	0.044	0.000
1	0.003	0.056	-0.018
1	-0.429	0.065	0.027
1	0.088	0.007	-0.042
1	0.146	0.031	0.032
1	-0.017	-0.012	-0.005
1	0.174	-0.022	-0.028
1	-0.542	0.127	0.036
1	-0.044	0.029	0.007
1	0.249	-0.052	-0.006
1	0.007	-0.005	-0.016
1	0.079	-0.046	-0.015
1	0.267	0.051	0.074
1	0.247	-0.009	0.039
1	0.248	-0.052	-0.085
1	0.083	0.050	-0.048
1	0.340	-0.073	0.011
1	0.342	0.089	0.057
1	0.463	0.124	0.095
1	0.166	-0.026	0.027
1	-0.170	0.089	0.018
1	0.155	-0.058	-0.047
1	0.079	0.084	-0.009
1	-0.370	-0.067	0.062
1	0.272	0.012	-0.021
1	0.110	0.177	0.131
1	0.060	0.062	-0.019
1	0.280	0.087	0.026
1	0.268	-0.086	-0.002
1	0.239	-0.068	-0.024
1	0.151	-0.084	-0.042
1	0.186	-0.063	-0.034
1	-0.004	-0.200	0.026
1	0.353	0.058	0.026
1	0.087	-0.044	0.019
1	0.179	-0.028	0.005
1	0.092	0.130	-0.046
1	0.390	0.011	0.028
1	0.334	0.147	0.086

1	-0.201	-0.065	0.108
1	0.098	0.024	-0.007
1	0.249	-0.036	-0.036
1	0.123	0.008	-0.024
1	0.425	0.087	-0.039
1	0.277	-0.047	0.043
1	0.172	0.061	0.032
1	0.237	-0.106	-0.018
1	0.077	-0.071	-0.037
1	0.396	0.027	-0.057
1	0.146	-0.042	-0.037
1	0.025	-0.034	-0.002
1	0.029	0.016	0.025
1	0.239	-0.038	-0.004
1	0.449	-0.020	-0.026
1	0.243	0.026	-0.016
1	0.187	0.024	-0.015
1	0.243	0.002	-0.015
1	0.261	-0.106	-0.007
1	0.149	0.042	-0.006
1	0.209	0.071	0.000
1	0.363	0.059	0.063
1	0.346	-0.066	0.022
1	0.257	0.043	0.004
1	0.013	-0.115	0.011
1	0.092	-0.062	0.014
1	0.184	0.042	-0.029
1	-0.373	0.015	-0.060
1	0.164	-0.035	-0.018
1	0.207	0.125	0.111
1	0.114	0.006	-0.034
1	0.081	-0.019	-0.004
1	0.284	0.057	0.120
1	0.240	0.125	0.079
1	0.175	0.140	0.039
1	0.086	-0.106	0.021
1	0.171	-0.018	0.027
1	-0.129	0.000	-0.033
1	-0.405	0.057	0.038
1	0.116	0.117	-0.099
1	0.046	-0.147	-0.003
1	0.064	-0.058	0.068
1	0.081	-0.045	-0.014
1	0.025	0.025	-0.059
1	0.015	-0.203	0.040
1	0.158	0.074	-0.079
1	0.229	0.079	0.011
1	0.146	0.032	-0.029
1	-0.110	0.113	-0.017
2	-0.243	0.099	-0.029
2	-0.111	0.109	0.025

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2	-0.304	0.052	0.062
2	-0.388	-0.008	0.038
2	-0.134	0.168	0.031
2	-0.044	0.049	-0.038
2	-0.412	0.076	0.010
2	-0.389	0.069	0.008
2	-0.242	0.152	-0.002
2	-0.258	0.059	0.013
2	-0.074	-0.025	0.009
2	-0.388	0.079	0.004
2	-0.248	-0.046	-0.042
3	-0.231	-0.054	0.051
3	-0.099	0.063	0.031
3	-0.026	-0.027	-0.041
3	-0.007	-0.058	-0.025
3	0.013	-0.095	0.008
3	-0.297	-0.118	0.056
3	-0.660	0.204	0.066
3	0.003	0.065	-0.010
3	-0.696	0.166	0.012
3	-0.027	-0.141	0.058
4	-0.108	0.129	-0.005
4	-0.021	-0.098	0.026
4	-0.376	-0.046	-0.024
4	-0.176	-0.140	0.012
4	-0.517	-0.055	0.028
4	-0.241	-0.087	-0.031
4	-0.057	-0.129	-0.003
4	-0.158	-0.096	0.019
4	-0.260	-0.036	-0.052
4	0.031	0.075	-0.007
4	0.224	-0.024	0.027
4	-0.187	0.032	0.049
4	-0.356	-0.083	-0.054
4	0.131	0.052	-0.016
4	-0.260	-0.123	0.010
5	0.071	0.037	-0.041
5	-0.311	0.000	0.043
5	0.086	0.008	0.030
5	-0.536	0.088	0.012
5	-0.223	-0.170	-0.050
5	-0.126	0.049	-0.037
5	-0.031	-0.035	-0.072
5	0.098	-0.098	0.074
5	-0.042	-0.110	0.013
5	-0.068	-0.098	0.127
5	-0.178	0.116	0.065
5	-0.439	0.122	-0.028
5	-0.224	0.156	0.001
5	-0.106	0.111	-0.024
5	-0.115	0.111	-0.033

5	-0.002	-0.006	-0.061
5	-0.107	0.033	0.003
5	0.094	-0.065	0.033
5	-0.038	0.052	-0.144
5	0.300	0.072	-0.012
5	-0.122	-0.060	-0.001
5	0.092	-0.012	-0.002
5	-0.145	-0.052	0.026
6	-0.157	-0.274	-0.011
6	-0.295	0.073	-0.065
6	-0.173	0.017	0.006
6	-0.021	-0.002	0.017
6	-0.157	-0.009	0.046
6	-0.066	-0.166	-0.028
6	-0.165	-0.151	0.059
6	-0.581	0.115	0.014
6	-0.190	-0.212	-0.011
6	-0.226	-0.014	0.047
6	-0.259	-0.011	0.013
6	0.092	-0.019	0.013
6	-0.079	-0.032	-0.007
6	0.112	-0.015	0.036
6	-0.116	0.187	-0.076
6	0.117	0.048	-0.009
6	-0.028	-0.079	0.007
6	0.075	0.072	0.009
6	-0.197	-0.081	0.022
6	-0.477	-0.439	-0.113
6	0.097	-0.037	-0.012
6	-0.157	-0.019	-0.019
6	-0.133	-0.010	0.015
6	-0.525	-0.174	-0.121
6	0.025	-0.008	0.011
6	-0.100	-0.314	0.069
6	-0.003	0.034	-0.007
6	0.137	-0.049	-0.018
6	-0.024	0.142	-0.038
6	-0.143	-0.011	-0.045
6	-0.232	0.011	-0.195
6	-0.007	0.023	-0.085
6	-0.110	0.073	0.136
6	-0.137	0.049	0.018
6	0.035	-0.101	-0.044

Principal Components of Reduced-Parameter Constituent Algorithm 3 which differentiates HG SILs from LG SILs. Results reported for calibration set:

L	PC1	PC3	PC4	PC7	PC8
1	0.748	0.432	-0.128	-0.304	0.052
1	0.747	0.432	-0.128	-0.281	0.032
1	0.857	0.644	-0.281	-0.223	-0.014
1	0.937	0.678	-0.111	-0.172	0.008
1	0.513	0.791	-0.172	-0.254	0.075
1	0.150	0.803	-0.165	-0.271	0.013
1	0.828	0.772	-0.179	-0.232	0.077
1	0.768	0.870	-0.187	-0.229	0.074
1	0.334	0.819	-0.183	-0.214	0.086
1	0.929	0.657	-0.183	-0.175	0.017
1	0.989	0.676	-0.143	-0.192	0.039
1	0.584	0.789	-0.170	-0.191	0.032
1	0.807	0.716	-0.165	-0.186	0.061
1	-0.221	0.509	-0.117	-0.193	0.006
1	0.729	0.699	-0.146	-0.164	-0.011
1	0.969	0.646	-0.158	-0.243	0.051
1	0.701	0.734	-0.056	-0.198	0.045
1	0.773	0.722	-0.071	-0.173	0.048
1	0.878	0.697	-0.173	-0.207	0.061
1	0.766	0.535	-0.141	-0.252	0.031
1	0.645	0.690	-0.125	-0.159	0.030
1	0.741	0.386	-0.060	-0.187	0.026
1	0.972	0.761	-0.146	-0.177	0.032
1	0.680	0.774	-0.179	-0.173	-0.008
1	0.993	0.718	-0.213	-0.176	0.021
1	0.848	0.819	-0.130	-0.191	0.019
1	0.316	0.794	-0.125	-0.281	0.117
1	0.579	0.730	-0.077	-0.253	0.043
1	0.738	0.851	-0.083	-0.222	0.022
1	0.303	0.816	0.046	-0.252	0.020
1	0.862	0.736	-0.124	-0.213	0.054
1	0.975	0.635	-0.116	-0.166	0.056
1	0.935	0.763	-0.065	-0.199	0.032
1	0.897	0.703	-0.111	-0.214	0.063
1	0.697	0.821	-0.085	-0.210	0.052
1	0.789	0.724	-0.075	-0.205	0.049
1	0.701	0.700	-0.073	-0.166	0.025
1	0.676	0.765	-0.110	-0.149	0.018
1	0.433	0.666	0.109	-0.136	0.032
1	0.910	0.776	-0.315	-0.154	0.016
1	0.557	0.781	-0.099	-0.220	0.041
1	0.923	0.873	-0.105	-0.146	0.044
1	0.628	0.845	-0.101	-0.248	0.048
1	1.060	0.705	-0.141	-0.167	0.050
1	0.897	0.598	-0.167	-0.198	0.053
1	0.143	0.845	-0.269	-0.243	0.063
1	0.635	0.807	-0.185	-0.218	0.032

1	0.867	0.763	-0.069	-0.180	0.047
1	0.771	0.769	-0.051	-0.227	0.054
1	0.763	0.681	-0.114	-0.185	0.040
1	1.060	0.697	-0.135	-0.152	0.042
1	1.040	0.754	-0.143	-0.162	0.049
1	0.898	0.724	-0.096	-0.164	0.022
1	0.558	0.789	-0.059	-0.246	0.035
1	0.668	0.771	-0.192	-0.236	0.012
1	0.582	0.713	0.020	-0.188	0.026
1	0.771	0.656	-0.164	-0.163	0.065
1	0.635	0.691	-0.059	-0.154	0.021
1	0.854	0.686	-0.126	-0.151	0.025
1	0.876	0.640	-0.142	-0.171	0.003
1	0.679	0.784	0.006	-0.245	0.046
1	0.690	0.834	-0.146	-0.232	0.035
1	0.711	0.753	-0.096	-0.184	0.067
1	0.694	0.677	-0.099	-0.267	0.044
1	0.812	0.545	-0.188	-0.228	0.083
1	0.671	0.754	-0.054	-0.210	0.059
1	0.869	0.844	-0.337	-0.190	0.049
1	1.000	0.724	-0.160	-0.220	0.042
1	0.860	0.693	-0.166	-0.203	0.027
1	0.476	0.738	0.152	-0.252	0.040
1	0.804	0.728	-0.141	-0.229	0.005
1	0.729	0.790	-0.069	-0.184	0.056
1	0.167	0.671	-0.096	-0.196	0.078
1	0.929	0.733	-0.087	-0.182	0.015
1	0.933	0.651	-0.113	-0.140	0.035
1	0.581	0.710	-0.182	-0.189	0.026
1	0.655	0.765	-0.077	-0.175	0.022
1	0.921	0.652	-0.187	-0.134	0.057
1	0.753	0.620	-0.111	-0.150	0.059
1	0.730	0.687	-0.124	-0.156	0.047
1	0.615	0.692	-0.014	-0.194	0.086
1	0.640	0.655	-0.012	-0.197	0.053
1	0.155	0.583	-0.225	-0.285	0.020
1	-0.120	0.592	-0.191	-0.257	0.052
1	0.694	0.727	-0.123	-0.111	0.012
1	0.556	0.645	-0.043	-0.189	0.026
1	-0.245	0.594	-0.170	-0.183	0.030
1	0.126	0.639	-0.083	-0.304	0.065
1	0.726	0.668	-0.131	-0.153	0.055
1	0.633	0.669	-0.076	-0.202	0.052
1	0.879	0.732	-0.224	-0.150	0.048
1	0.898	0.606	-0.183	-0.163	0.012
1	0.641	0.788	-0.113	-0.198	0.044
1	-0.132	0.564	-0.168	-0.220	0.026
2	0.407	0.803	-0.116	-0.236	0.019
2	0.494	0.841	-0.228	-0.215	0.088
2	0.474	0.762	-0.273	-0.165	-0.025
2	0.009	0.734	-0.455	-0.235	0.006

2	0.254	0.903	-0.364	-0.250	0.029
2	0.496	0.868	-0.143	-0.251	0.048
2	-0.170	0.642	0.053	-0.182	0.033
2	0.179	0.977	-0.370	-0.191	0.081
2	0.490	0.905	-0.200	-0.187	0.089
2	0.383	0.739	-0.193	-0.216	0.066
2	0.585	0.819	-0.163	-0.209	0.060
2	0.376	0.890	-0.186	-0.235	0.030
2	0.403	0.785	-0.018	-0.141	0.036
3	-0.201	0.489	-0.004	-0.120	0.018
3	0.590	0.739	-0.071	-0.266	0.060
3	0.593	0.751	-0.082	-0.214	0.036
3	0.658	0.373	-0.144	-0.215	0.064
3	0.520	0.890	-0.003	-0.197	0.075
3	0.279	0.839	-0.186	-0.219	0.000
3	-0.062	0.662	-0.004	-0.218	-0.037
3	0.657	0.849	-0.085	-0.260	0.031
3	-0.090	0.788	-0.163	-0.164	-0.063
3	0.533	0.769	0.040	-0.221	0.048
4	0.549	0.801	-0.188	-0.269	0.003
4	0.270	0.864	-0.182	-0.217	-0.049
4	0.241	0.882	-0.166	-0.156	0.065
4	0.455	0.764	-0.005	-0.233	0.054
4	-0.119	0.636	-0.180	-0.140	0.016
4	0.162	0.753	-0.179	-0.159	0.040
4	0.610	0.285	-0.158	-0.228	0.068
4	0.394	0.826	-0.039	-0.232	0.028
4	-0.007	0.706	0.034	-0.163	0.062
4	0.494	0.818	-0.195	-0.259	0.031
4	0.999	0.673	-0.154	-0.135	0.046
4	0.243	0.784	-0.140	-0.259	0.081
4	0.102	0.656	0.177	-0.171	0.064
4	0.176	0.687	-0.058	-0.244	0.054
4	0.444	0.540	-0.059	-0.266	-0.008
5	0.731	0.721	-0.247	-0.203	0.018
5	0.004	0.744	-0.204	-0.144	0.012
5	0.864	0.667	-0.177	-0.183	0.050
5	-0.023	0.653	-0.274	-0.144	-0.129
5	0.671	0.729	0.059	-0.158	0.048
5	0.622	0.823	-0.079	-0.172	0.052
5	0.495	0.677	-0.069	-0.142	0.045
5	0.759	0.780	-0.097	-0.250	0.025
5	0.581	0.835	-0.080	-0.207	0.035
5	0.782	0.539	-0.088	-0.211	0.007
5	0.242	0.812	-0.253	-0.244	0.067
5	-0.019	0.932	-0.074	-0.118	-0.131
5	0.194	0.990	-0.170	-0.168	-0.026
5	0.682	1.080	-0.110	-0.099	0.095
5	0.750	0.848	-0.108	-0.183	0.016
5	0.274	0.748	-0.135	-0.177	-0.021
5	0.510	0.785	-0.090	-0.151	0.033

5	0.533	0.781	-0.053	-0.257	0.069
5	0.468	0.903	-0.216	-0.185	0.049
5	0.747	0.733	0.027	-0.273	0.027
5	0.593	0.746	0.072	-0.242	0.035
5	0.570	0.841	-0.065	-0.162	0.041
5	0.451	0.709	-0.052	-0.199	0.006
6	0.499	0.458	0.002	-0.240	0.081
6	0.015	0.779	-0.226	-0.126	0.069
6	0.427	0.809	-0.164	-0.204	0.055
6	0.760	0.745	-0.267	-0.175	0.051
6	0.262	0.734	-0.141	-0.294	-0.078
6	0.825	0.724	-0.006	-0.153	0.040
6	0.389	0.767	-0.072	-0.268	0.073
6	-0.249	0.494	-0.049	-0.104	0.052
6	0.698	0.770	0.038	-0.118	0.030
6	0.255	0.910	-0.258	-0.261	0.024
6	0.178	0.854	-0.178	-0.207	0.024
6	0.857	0.784	-0.122	-0.242	0.050
6	0.402	0.813	-0.063	-0.157	0.043
6	0.677	0.632	-0.088	-0.153	0.052
6	0.485	0.900	-0.112	-0.182	0.083
6	0.610	0.765	-0.104	-0.241	0.046
6	0.271	0.752	-0.104	-0.250	0.024
6	0.498	0.801	-0.156	-0.235	0.047
6	0.405	0.790	0.034	-0.223	0.055
6	0.165	0.499	-0.127	-0.037	0.107
6	0.582	0.755	-0.166	-0.159	0.039
6	0.352	0.689	-0.041	-0.145	0.039
6	0.413	0.805	-0.068	-0.245	0.067
6	0.065	0.689	0.089	-0.153	0.038
6	0.364	0.845	-0.212	-0.256	0.079
6	0.261	0.720	0.055	-0.232	0.054
6	0.538	0.802	-0.074	-0.253	0.071
6	0.526	0.615	-0.049	-0.174	0.050
6	0.397	0.778	0.019	-0.201	0.059
6	0.292	0.758	0.000	-0.217	0.052
6	0.433	0.797	-0.322	-0.248	0.037
6	0.635	0.803	-0.116	-0.195	0.064
6	-0.064	0.813	-0.203	-0.183	-0.045
6	0.254	0.733	-0.091	-0.194	0.050
6	0.037	0.671	-0.260	-0.106	0.115

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APPENDIX D: PRINCIPAL COMPONENTS

| 337 nm excitation | | 460 nm excitation | | 380 excitation | | 460 excitation | |
E1	E2	E1	E2	E2	E5	E4	E7
0.12	0.11	-0.147	-0.275	-0.615	0.532	0.69	0.10
0.17	0.12	-0.093	-0.319	-0.464	-0.151	0.09	-0.07
0.22	0.12	-0.074	-0.360	-0.378	-0.1	-0.14	-0.17
0.25	0.11	-0.056	-0.345	-0.317	-0.308	-0.23	-0.07
0.27	0.1	-0.027	-0.314	-0.236	-0.373	-0.24	0.06
0.28	0.11	-0.004	-0.253	-0.157	-0.348	-0.23	0.04
0.28	0.12	0.010	-0.193	-0.086	-0.236	-0.19	0.01
0.28	0.12	0.024	-0.121	-0.04	-0.161	-0.15	0.00
0.28	0.11	0.029	-0.048	-0.004	-0.071	-0.09	-0.05
0.26	0.11	0.016	0.030	0.025	-0.055	-0.01	-0.07
0.24	0.11	-0.001	0.097	0.044	0.013	0.06	-0.07
0.22	0.11	-0.026	0.153	0.06	0.068	0.12	0.24
0.2	0.09	-0.052	0.201	0.06	0.108	0.14	0.40
0.17	0.08	-0.025	0.203	0.055	0.123	0.16	0.30
0.13	0.05	0.019	0.192	0.046	0.159	0.16	0.04
0.09	0.04	0.062	0.160	0.023	0.133	0.16	-0.12
0.06	0.04	0.090	0.153	0.006	0.15	0.14	-0.18
0.02	0.05	0.091	0.153	-0.014	0.089	0.14	-0.14
-0.01	0.05	0.088	0.164	-0.026	0.075	0.16	-0.24
-0.04	0.05	0.087	0.158	-0.044	0.047	0.17	-0.23
-0.06	0.05	0.106	0.146	-0.055	0.025	0.17	-0.16
-0.08	0.07	0.145	0.092	-0.063	-0.018	0.11	-0.12
-0.09	0.09	0.189	0.020	-0.071	-0.089	0.05	-0.18
-0.1	0.11	0.218	-0.023	-0.072	-0.102	0.01	-0.09
-0.11	0.13	0.240	-0.054	-0.078	-0.104	-0.02	0.11
-0.11	0.15	0.249	-0.060	-0.071	-0.078	-0.04	0.04
-0.12	0.17	0.242	-0.073	-0.071	-0.091	-0.03	-0.06
-0.12	0.18	0.238	-0.075	-0.066	-0.087	-0.02	0.08
-0.12	0.2	0.240	-0.064	-0.062	-0.095	-0.03	0.15
-0.11	0.2	0.230	-0.063	-0.06	-0.08	-0.03	0.18
-0.1	0.21	0.221	-0.061	-0.057	-0.067	-0.03	0.19
-0.09	0.22	0.211	-0.060	-0.048	-0.086	-0.02	0.25

-0.08	0.22	0.204	-0.052	-0.039	-0.068	-0.01	0.26
-0.07	0.21	0.199	-0.045	-0.031	-0.039	0.00	0.17
-0.07	0.21	0.185	-0.044	-0.027	-0.034	0.01	0.10
-0.07	0.2	0.181	-0.045	-0.019	-0.028	0.01	0.03
-0.06	0.2	0.176	-0.042	-0.019	-0.032	0.00	-0.02
-0.06	0.19	0.170	-0.037	-0.015	-0.01	0.00	-0.01
-0.06	0.18	0.167	-0.035	-0.008	-0.039	0.01	-0.12
-0.05	0.17	0.159	-0.030	-0.008	-0.037	0.03	-0.13
-0.05	0.16	0.158	-0.032	-0.01	-0.068	0.01	-0.21
-0.05	0.15	0.151	-0.027	-0.009	-0.085	0.01	0.00
-0.05	0.14	0.146	-0.027	-0.005	-0.095	0.00	-0.03
-0.05	0.13	0.137	-0.019	-0.01	-0.069	0.01	0.03
-0.05	0.12	0.128	-0.015	-0.007	-0.084	0.01	0.03
-0.05	0.11			-0.012	-0.034		
-0.05	0.1			-0.012	-0.036		
-0.04	0.11						
-0.04	0.09						
-0.04	0.09						
-0.03	0.09						
-0.03	0.09						
-0.03	0.08						
-0.03	0.08						
-0.03	0.08						
-0.02	0.09						
-0.02	0.12						